February 13, 1845.

The MARQUIS OF NORTHAMPTON, President, in the Chair.

'Αμόρφωτα, No. 1. "On a case of Superficial Colour presented by a Homogeneous Liquid internally colourless." By Sir John Frederick William Herschel, Bart., F.R.S., &c.

The author observed that a solution of sulphate of quinine in tartaric acid, largely diluted, although perfectly transparent and colourless when held between the eye and the light, or a white object, yet exhibits in certain aspects, and under certain incidences of the light, an extremely vivid and beautiful celestial blue colour, apparently resulting from the action of the strata which the light first penetrates on entering the liquid; and which, if not strictly superficial, at least exert their peculiar power of analysing the incident rays, and dispersing those producing the observed tint, only through a very small depth within the medium. The thinnest film of the liquid seems quite as effective in producing this superficial colour as a considerable thickness.

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February 20, 1845.

The MARQUIS OF NORTHAMPTON, President, in the Chair.

"Additional Remarks respecting the Condensation of Gases." By Michael Faraday, Esq., F.R.S. &c.

The author, suspecting the presence of nitrogen in the nitrous oxide on which he had operated, repeated his experiments with this gas, very carefully prepared from pure nitrate of ammonia, but the results still indicated the presence of a more volatile gas mixed with another less volatile. He found that olefiant gas is readily soluble in strong alcohol, æther, oil of turpentine, and other bodies of the same kind; and that, like the former gas, it seems to be of a compound nature. His experiments confirm the prevalence of the law that the force of vapour increases in a geometrical ratio for equal increments of heat, commencing at a given amount of pressure. The more volatile a body is, the more rapidly does the force of its vapour increase by an augmentation of temperature, the increase of elasticity being directly as the volatility of the substance. By further and more accurate investigation, a general law may be established for deducing, from only a single observation of the force of any given vapour in contact with its fluid, its elasticity at any other temperature.

Postscript to the Paper by Sir John F. W. Herschel, Bart., F.R.S., read at the last meeting.

The author found that neither cinchonine nor salicine, in a state of great purity, possessed, in the smallest appreciable degree, the optical property which he has shown to belong to quinine.